

INTERNATIONAL POLICY BRIEFING Radiofrequency Radiation in Communities and Schools Actions by Governments, Health Authorities and Schools Worldwide

Please go to source documents by clicking on the blue underlined hyperlink.

(Please email info@ehtrust.org for comments/updates as we do our best to ensure accuracy but the policy landscape is always changing. This is a living document.)

France

2016 The National Agency of Health Security of Food, Environment and Labour Report recommends

- regulatory changes to ensure "sufficiently large safety margins" to protect the health of young children.
- "ALL wireless devices, including tablets, cordless phones, remote controlled toys, wireless toys, baby monitors and surveillance bracelets, should be subjected to the same regulatory obligations as cell phones."

National Legislation "Law on sobriety, transparency, information and consultation for exposure to electromagnetic waves" passed in 2015.

- **WiFi Banned in Nursery Schools:** WIFI and Wireless devices will be banned in "the spaces dedicated to home, to rest and activities of children under 3 years".
- WiFi on "OFF" as Default to Minimize Exposures in Schools: In elementary schools, WIFI routers should be turned off when not in use.
- **Schools Will be Informed:** The school board should be informed when new tech equipment is being installed.
- **Cell Tower Emission Compliance Will Be Verified:** A decree will define the limits of emission of equipments for electronic communications or transmission to which the public is exposed. These values can be verified by accredited organizations and results will be made accessible to the public through a National Radiofrequency Agency.
- Citizens Will Have Access to Environmental/Cell Tower Radiation Measurements Near homes: Every resident may get access to the results of measurements for their living space.
- **Cell Antennae Maps For the Country**: A description and map of the places with atypical (higher than the limits) places will be conducted at regular intervals with follow up of the actions being taken to limit the exposure. A map of all antennas will be produced for each town.
- Continued Evaluation of Health Effects: The National Radiofrequence Agency will be in charge of surveillance and vigilance, evaluating potential risks and setting up scientific research, including information on health effects.
- **SAR Radiation Labeling Mandated:** The SAR of cell phones must be clearly indicated on the package.
- Information on Reducing Exposures Mandatory: Information on ways to reduce exposure will be detailed in the contents of the cell phone package. .
- WIFI Hotspots will be Labeled: Places where WIFI is provided should be clearly marked with a pictogram.

- Advertisements Must Recommend Devices That Reduce Radiation Exposure to the Brain:
 Advertising for cell phones should clearly indicate the recommendation of hand free kits for
 protection of the head of the user and it will be included in the package. Advertising for cell phone
 not accompanied by such a kit is forbidden. Companies in violation will be fined 75,000 Euros.
- Children Must Be Provided Protections: At the request of the buyer, equipment reducing cell phone radiation exposures to the head for children less than 14 years should be provided.
- The Public Will Be Informed: Within a year, a policy of information on awareness and information on a responsible and reasonable use of cell phones and other apparatus emitting radiofrequencies will be set up.
- **Electrohyper-sensitivity Report To Be Submitted:** Within a year, a report on electrohyper-sensitivity must be given to the Parliament.

France: As of January 2017, new regulations aimed to protect employees from electromagnetic fields emitted by the electronic devices present in the workplace. A decree was issued by the French Government on 6 August 2016:

- Specific precautions will be taken regarding pregnant women.
- It is forbidden to place workers under age 18 in posts where EMF is apt to exceed limit values
- each employer has to evaluate EMF risks.
- When exposure exceeding limit values is detected or when an undesirable or unexpected health effect from exposure to EMF is reported, the worker will benefit from a medical visit.
- The employer must provide information and training to his employees regarding the characteristics of EMF emissions, the direct and indirect biophysical effects that could result from exposure to EMF, etc.
- The employer must adapt as much as possible the post in order to limit exposure to EMF.
- Read about it here.

2011 French Cell Phone Statute:

 Merchants must display SAR Radiation levels for different phone models, all phones must be sold with a headset, cell phone ads aimed at children younger than 14 are banned and phones made for children under 6 are banned.

2013 French Agency for Food, Environmental and Occupational Health & Safety Report

- Recommends hands free phones, SAR labeling, and "limiting the population's exposure to radiofrequencies... especially for children and intensive users, and controlling the overall exposure that results from relay antennas."
- <u>The French National Library</u> along with other libraries in Paris, and a number of universities have removed all Wi-Fi networks.
- Herouville-Saint-Clair has removed all Wi-Fi equipment installed in municipalities.

The City of Lyon France ran a Campaign "No Cell Phone Before 12 Years old" See colorful poster here.

Belgium

Federal Public Health Regulations passed on March 2013 due to Health Concerns for Children.

- Phones designed for children under 7 years old are prohibited from sale.
- Total Advertising Ban on cell phones aimed at children.
- Mandatory Radiation SAR levels must be available for consumers at point of sale.
- Warning label on phones: "Think about your health use your mobile phone moderately, make your calls wearing an earpiece and choose a set with a lower SAR value."
- Recommendations include use of hands-free methods to keep the phone away from the body

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such as text messaging and not making calls when the signal is weak, such as in elevator/vehicle.

- See examples of the posters that shops must display.
- Read Belgium's <u>frequently asked questions about the new law.</u>
- Powerpoint Presentation <u>IMPLEMENTATION OF the Council Recommendations in Belgium</u> <u>Introduction of new rules for mobile phone sales Presentation by Dr.Marina Lukovnikova (Ministry of Public Health, Belgium)</u>
- Read the Belgium Health Food and Safety Brochure on Wireless devices here.
- Read Dr. Moskowitz Press Release on the Belgium Law.
- Read the News article Flanders Today: Belgium bans sale of mobile phones designed for children
- The Belgian Foundation Against Cancer warns that intensive use of a mobile phone can increase the risk of contracting cancer. They suggest that children younger than 12 should not use a mobile phone, and that using a mobile phone as an alarm clock is not desirable because the phone is in close proximity to the head the entire night. The Cancer Foundation also strongly advises people not to use a mobile phone in the car or a train. Read it here.
- Read the World Health Organization Belgium Report detailing the Law here.

Belgium Health Agency Recommendations to Reduce Exposure

- Read Belgium's Statement on Wireless Networks: "to reduce your exposure" which includes specific tips for Wi-Fi installations and I quote, "In order to limit the exposure, the following simple measures can be taken: Only switch on your wireless network connection when it is needed. This concerns the wifi adapter in your laptop in particular. Otherwise, your laptop tries to continually connect to the network, and that leads to unnecessary exposure and decreases the life expectancy of the batteries. Place the access point away from places where you spend lots of time."
- Read Belgium's <u>Tips for Reducing Cell Phone Exposure HERE</u>; "Experts including those on the <u>Superior Health Council(link is external)</u> – advise everyone to limit their exposure to mobile phone radiation. The following simple tips will help you."
- Children and Cell Phones: "The use of the mobile phone by children is a special point of attention. Children may be more sensitive to radio waves. Children absorb twice as much radiation in the brain than adults do, and 10 times more in the bone marrow of the skull. In addition, due to the popularity of the mobile phone, the cumulative exposure of the current generation of children will be much higher by the time they reach their adulthood than that of the current adults."

Belgiums <u>Ghent Municipality:</u> Wireless internet is <u>banned from spaces that cater to children</u> between 0 and three: preschools and daycares to reduce exposure to microwave radiation. <u>Read news article about the ban here.</u>

Spain

- The Parliament of Navarra voted to urge removal of WIFI in schools and to apply the
 precautionary principle in relation to exposure limits to electromagnetic fields whose boundaries
 have become "obsolete".
 - The Parliament voted to adopt a resolution which calls to implement the Parliamentary
 Assembly of the Council of Europe resolution 1815 of 2011, which recommends to "review
 the scientific basis for the standards of exposure to electromagnetic fields" and " set
 thresholds for levels of preventive long-term exposure in all indoor areas not exceeding

0.6 volts per meter ".

- 2016 The High Court of Madrid recognizes "Electrosensitivity" as grounds for disability: A
 telecommunications engineer who worked at Ericsson had his sensitivity recognized. "This is the
 first we have achieved total disability due exclusively to this syndrome," says attorney Jaume
 Cortés, the Col·lectiu Ronda. Read the news article here.
- The Vitoria City Council unanimously approved a precautionary approach with wireless: Citizens
 will be informed of the location of wireless transmitters are in civic centers and municipal
 buildings. It is recommended that children's spaces such as playgrounds and family libraries, will
 be free of WiFi or have decreased wifi and wifi free zones will be established in playgrounds and
 building entrances.
- The Basque Parliament joined the resolution of the Parliamentary Assembly of Council of Europe in 2011, which warns of the "potential risk" of electromagnetic fields and their effects on the environment and urged the promotion of campaigns against "excessive use "mobile phones among children. In a statement, the parliamentary Aralar, Dani Maeztustated, "To protect children's health, recommends the implementation of information campaigns and portable devices that emit microwaves, and prioritizes the use of cable connections in schools."
- City of Tarragona Municipal Government (Tarragona is a major city 100 kilometres south of Barcelona) approved the "Institutional Declaration of support for people with Central Sensitivity Syndromes"
- 1. Carry out (with a yearly update) a diagnosis and census of those affected by CSS in the City of Tarragona, showing what is the actual situation and the specific needs of these patients and their families.
- 2. An intervention protocol for the staff of the Area of Services to Citizens of the Tarragona City Government to look after those with CSS- including a list of economic subsidies for food, first necessity elements, reduced water bill, and home help specific to the needs of these patients.
- 3. Housing protocol for people with CSS, especially those who have MCS and/or EHS, those threatened by eviction or those who are forced to leave their home. This protocol has to include a series of safe social housing (green/white spaces: free of xenobiotics and electromagnetic waves).
- 4. Create green/white spaces in all municipal buildings (free of xenobiotics and electromagnetic waves).
- 5. Eliminate, as much as possible, the use of pesticides in the whole of the municipality. In the case when this is not possible, establish a communication protocol to contact those affected and the press regarding the places and dates of the interventions with preventive advice.
- 6. Training for social workers and educators about CSS, its social, health and economic reality. Elaboration of information and education to increase the knowledge about these illnesses amongst the general population and of the city workers in particular, with the objective of diminishing the stigma that is now present regarding these illnesses.
- 7. Protocol for adapting working conditions of the municipal workers who have CSS with specific measures of support when having a flare up. These would be the measures: work schedule flexibility, encourage work from home through internet (teleworking), reserved parking spaces and include in the collective agreement not deduct the salary of the first 20 days of sick leave.
- 8. Read the full article detailing the actions here.

Canada

- **Health Canada offers "Practical Advice"** on reducing exposure to wireless radiation: 1. Limit the length of cell phone calls, 2. Replace cell phone calls with text, use "hands-free" devices and 3. Encourage children under the age of 18 to limit their cell phone usage. Read it here.
 - "Health Canada reminds cell phone users that they can take practical measures to reduce RF exposure. The department also encourages parents to reduce their children's RF exposure from cell phones since children are typically more sensitive to a variety of environmental agents. As well, there is currently a lack of scientific information regarding the potential health impacts of cell phones on children."
- Canadian Parliament Standing Committee on Health of the House of Commons issued a
 report "Radio Frequency Electromagnetic Radiation and the Health of Canadians" on June,
 2015 after holding public hearings regarding Health Canada's Safety Code 6 recommended
 limits. They made 12 recommendations including an awareness campaign on reducing
 exposures, improved information collecting and policy measures regarding the marketing of
 radiation emitting devices to children under the age of 14, "in order to ensure they are aware of
 the health risks and how they can be avoided."
- 2015: National Bill C-648 was Introduced into the House Of Commons, "An Act Respecting the Prevention of Potential Health Risks From Radiofrequency Electromagnetic Radiation" would require manufacturers of all wireless devices to place specific health warning labels clearly on packaging, or face daily penalties /fines and/or imprisonment. Although the Bill did not pass, it made headlines.Press Conference for Bill C-648 Video.
- Canadian Pediatric Association issued a Position Statement <u>Healthy active living: Physical</u> activity guidelines for children and adolescents which states:

For healthy growth and development: screen time (eg, TV, computer, electronic games) is not recommended for children under 2 years old. For children 2-4 years, screen time should be limited to <1 h/day; less is better. Read the Position Statement Here.

European Parliament

Resolution 1815: In 2011 The Parliamentary Assembly of the Council of Europe issued *The Potential Dangers of Electromagnetic Fields and Their Effect on the Environment.*

A call to European governments to "take all reasonable measures" to reduce exposure to electromagnetic fields "particularly the exposure to children and young people who seem to be most at risk from head tumours." The Resolution calls for member states to:

- Implement "information campaigns about the risk of biological effects on the environment and human health, especially targeting children and young people of reproductive age. "
- "Reconsider the scientific basis for the present standards on exposure to electromagnetic fields set by the International Commission on Non-Ionising Radiation Protection, which have serious limitations, and apply ALARA principles, covering both thermal effects and the athermic or biological effects of electromagnetic emissions or radiation."

"For children in general, and particularly in schools and classrooms, give preference to wired Internet connections, and strictly regulate the use of mobile phones by schoolchildren on school premises." Resolution 1815

Read the 2009 Resolution: Health concerns associated with electromagnetic fields calling for a review of the issue.

Australia

The Australian Radiation Protection and Nuclear Safety Agency has issued a <u>Fact Sheet</u> titled *How to Reduce exposure from mobile phones and other wireless devices.*

- Reduce the risk from WiFi devices by "keeping them at a distance, for example placing the
 wireless router away from where people spend time", and "reducing the amount of time you use
 them".
- ARPANSA recommends that parents encourage their children to limit their exposure stating that
 "It is recommended that, due to the lack of sufficient data relating to children and their long term
 use of mobile phones, parents encourage their children to limit their exposure by reducing call
 time, by making calls where reception is good, by using hands-free devices or speaker options, or
 by texting." Read it HERE.

Queensland Department of Education, Training and Employment issued Your Guide to Safe Technology guide in 2015 to all schools that states:

It's not only physical hazards you need to consider when thinking about health and safety issues at work or home — you should also think about how you use technology. When using a computer, you need to think about:

- ergonomics and posture
- radiation
- vision impacts
- harmful lack of exercise (DVT).

"Wireless devices — smart/mobile phones, tablets, slates, monitors etc — all emit low levels of electromagnetic radiation and should be used correctly. When using electronic devices, the department recommends you follow WiFi/3G/4G best practice:

- follow the manufacturer's usage guideline operate from a table or bench not on your lap
- use 'hands-free' devices to keep smart/mobile phones away from your head and body during phone calls limit the number and length of calls
- position the device antenna away from your body
- do not sit within 0.5 m of a wireless router use smart/mobile phone in areas of good reception to reduce exposure."
- Watch a video on these recommendations here.

New Zealand

Rotokawa School implemented steps to minimize RF Exposure on 2/2/2016

After concerns raised about e-learning by a small group of parents from the school, the principal has put some positive procedures in place as follows;

- Children will use ipads in flight mode
- Children using laptops and Chromebooks will work on the desk top
- Parents may request that their child use an Ethernet cord to access the internet
- Children are taught about the health precautions as part of their cyber citizenship
- Digital learning in the one to one Year 5 & 6 environment is kept to less than 2 hours per school day.

• The principal has also stated there are no plans to increase the existing Wi-Fi coverage at this stage.

Italy

- 2016: Mayor of Borgofranco d'Ivrea has ordered Wi-Fi to be turned off in schools. "Mayor
 Livio Tola told the town's high school and elementary school to return to using cables to connect
 to the internet after reading that the electromagnetic waves given off by wireless routers were
 especially harmful to young children." Read the newspaper article here. Read the News article
 here "Ivrea, The Mayor Removes WiFi as it Could Be Dangerous".
- On June 10, 2015, the State Parliament of South Tyrol voted to <u>allow the application of the precautionary principle</u> mandating the state government to:
 - 1. To replace existing wireless networks whenever possible with networks that emit less radiation at schools, preschools, hospitals, nursing homes, and other public facilities.
 - 2. Establish a working group whose mandate it is to assess these new technologies and their exposure levels. With regard to wireless communication technologies, mobile Internet access, and public health, the working group shall clarify which technologies emit less radiation and provide sustainable technology options and
 - 3. To start an education and awareness campaign that informs about possible health risks, especially regarding the unborn, infants, children, and adolescents and that develops guidelines for a safer use of cell phones, smartphones, and Wi-Fi ... <u>Discussion at the Plenary Session</u>, 10 June 2015 (in German) ////////Official Files, Resolutions (in German) ////////Previous Hearing at the Parliament of South Tyrol, 29 April 2015 (in German)
- The <u>Italian Supreme Court</u> ruled a man's brain tumor was caused by his cell phone use in 2012. The National Institute for Workmen's Compensation must compensate a worker with head tumor due to cell use. <u>Read news article with details here.</u> Read Daily Mail article <u>Mobile phones</u> <u>CAN cause brain tumours, court rules in landmark case</u>.
- A school In Lecce, Italy, "Istituto Comprensivo Alighieri- Diaz" banned wifi. Their two resolutions decided: a) to ban wifi in school and install a wired system for the use of internet and b) Reject the request of the local government (Municipality) to install an antenna on the school roof for the wireless signal providing for the "Wireless city" program. The resolution also asks the Municipality to install the antenna at a reasonable distance from school. Read the official resolutions number 1 here and Resolution 2 Here.
- The Piemonte Region has adopted a resolution to limit EMF exposure, to limit the use of wifi in schools and be considerate to the problem of EHS people. Read about it here.
- The Italian Society for Preventive and Social Pediatrics has officially called to prohibit cell phones for children under 10 years old. Giuseppe Di Mauro, president of the Italian Society of social and preventive pediatrics [Società italiana di pediatria preventiva e sociale (www.sipps.it)] "We do not know all the consequences associated with cell phone use, but excessive use could can lead to concentration and memory loss, increase in aggressiveness and sleep disturbances." and he cites electromagnetic fields stating "The damage to health are increasingly evident" Read it here.

 Turin Mayor Chiara Appendino laid out plans "to cut back on Wi-Fi in state schools and government buildings over concerns that radiation might damage people's health". Read 7/2016
 News Report <u>Turin could slash Wi-Fi over 'radiation' concerns</u>

Finland

In 2015 the Radiation and Nuclear Safety Authority (STUK) revamped their public information website to recommend reduced exposure to children and state the following:

- The page <u>Mobile phones are a major source of radio frequency radiation</u> states that, 'The
 level of exposure to radiation from a mobile phone held next to user's ear can approach the
 exposure limits. Never before have humans been exposed to equally strong sources of radiation
 in their living environments. Identifying any health impacts is highly important because practically
 everybody uses a mobile phone today."
- Read STUK Recommendations to reduce cell phone exposure HERE: Use a hands free device, don't use phones reception is poor, the phone should be kept on a table or similar location instead of in the user's pocket.
- "STUK recommends that unnecessary exposure to radiation from mobile phones be avoided. In particular, children's unnecessary exposure should be avoided as their life-long exposure will be longer than that of those who begin using mobile phone as adults and as only scant research exists on health effects to children."

In 2009 the Radiation and Nuclear Safety Authority (STUK) initially issued recommendations to reduce exposure with more explicit cautionary language.

- Read the information posted on the STUK website in 2009- now removed.
- Read a policy position paper by STUK from 2009 detailing why "It would be good to restrict children's use of mobile phones."
- Read the 2011 policy position from STUK.
- Read a news article from 2009 when STUK first recommended restricting the use of mobile phones by children.

Israel

- 2016: Cell Phones are banned in school classrooms per a memorandum from the Ministry of Education. Watch a newsreport on the cell phone action here.
- **Cell Phone Consumer Protection Law:** Compulsory cell phone labeling, radiation information provided to consumers. A mobile phone may not be sold unless they comply with the following:
 - A clearly visible sticker on cell phone <u>packaging</u> that says, ""This mobile phone emits non-ionizing radiation; details and information about the radiation levels of this mobile phone model and the maximum permissible level of radiation are included in the attached leaflet."
 - The packaging must include an **information leaflet** in Hebrew, Arabic and Russian with SAR information.
 - The information must be clearly displayed to the public at points of sale of mobile phones, service provision centers, websites of manufacturers, suppliers and service providers of mobile phones.
 - Consumer Information leaflet by Forum of Mobile phone Manufacturers (Hebrew)
 - o Compulsory Marking/Provision of Information on Non-Ionizing Radiation
- Israeli Ministry of Health Recommends Reducing Exposure to Cell Phone Radiation.

"These expert committees determined that there are indeed gaps in the knowledge concerning the implications of exposure to this radiation, and therefore they called for further studies on the subjects and recommended to adopt the "precautionary principle". This principle adopts simple and relatively cheap means to reduce exposure to the minimum radiation levels possible with existing technology." Read the Ministry of Health Cell Phone Radiation page.

Cell Phone Measures that the Ministry of Health recommends:

- Using the speakerphone/headset during conversation.
- Keep the phone away from the body.
- Reduce the amount and duration of calls made on a cell phone.
- Areas of low reception equals higher radiation (low cell tower reception, elevator, car, train) Reduce call time in these low reception areas.
- While driving, it is best to talk as little as possible on the mobile phone, and follow the law
 which bans handheld phones. Inside vehicles, it is advisable to install an antenna outside
 the vehicle and not inside it, and to prefer wire connections between the phone and the
 speaker- rather than blue-tooth.
- The Ministry Health recommends precautions especially for children.

"In particular, it is recommended to follow precautionary rules in the children population who are typically more sensitive to cancer development due to exposure to cancerous agents...the Ministry of Health advises parents to reduce children's exposure to mobile phones as much as possible, consider the age they start using them, reduce the amount of time mobile phones are used, and in any event, make sure they use earphones (not wireless) or a speaker when using the mobile phone."

- The Israeli Ministry Of Education has issued guidelines limiting WiFi radiation in schools.
 - Wireless networks banned in preschool and kindergartens.
 - 1st. & 2nd. grade internet is limited to max. 3 hr. per week of internet.
 - 3rd grade maximum 8 hours a week.
 - A hard wired direct cable connection is required if the teacher has a computer in the class.
 - Recommendations for reducing magnetic fields to below 4 mG for children under 15 in schools representing the government's position that international guidelines are NOT protective of children.

The Israeli Government created the EMF public education webpage <u>Israeli National Information Center</u> <u>for Non-Ionizing Radiation (TNUDA)</u> to raise awareness of the public which includes sections on:

TNUDA Recommendations to Reduce exposure to EMF in the home:

- Home Cordless Phones: Keep the base out of rooms where you spend many hours a day in.
- Laptop: Keep laptop away from the body. Reduce exposure by turning Wi-Fi off when not in use or using ethernet connections not Wi-Fi.
- Tablets: You can reduce exposure by downloading applications and turning Wi-Fi off.
- Baby Monitors: Since they have RF and ELF Emissions, keep a distance as much as possible from devices.
- Sleeping areas: It is recommended to keep all radiation emitting devices (home cordless phones, routers) away from sleeping areas or where you spend hours a day.
- Read more- including floor heating, microwaves and other devices.

Electrical Exposures ELF-EMF: The recommendations of the Ministry of Environment and the Ministry of Health maximum permissible level of exposure to ELF in places of prolonged chronic exposure such as residences is 4 mG. Read it here.

2016: The Mayor of Haifa (Israel's third largest city) calls for the removal of Wi-fi from all schools.

- Haifa Mayor Yona Yahav, said that "When there is a doubt, when it comes to our children, there is no doubt". Read the News Report The Wi-Fi in kindergartens and schools in Haifa.
- "The roots of the decision go back to a 2013 petition by parents in four schools who claim that such networks are harmful. The case eventually made its way to the High Court, which has postponed a final decision on the matter...The movement has spread from Haifa to other cities as well, and petitions have been signed by parents in dozens of cities demanding the removal of the networks. Haifa is the first city to take action on the matter.Haifa Mayor Yona Yahav said that the city would replace the wireless network with a wired connection that will provide safer options to students." Read the news article here.
- This action occurred after this Israeli <u>TV Documentary "HOW WE ARE KILLING OURSELVES WIRELESS RADIATION"</u> aired.
- The school system has developed in house ability to ethernet connect computers in schools, however in practice, school communities are choosing to continue to use wireless despite the ability to be fully hardwired.

Read the official <u>ISRAEL 2015 RF Safety Report</u> with actions being taken to reduce ELF and RF EMF. **Cellular operators must inform consumers about radiation safety instructions.**

According to a settlement agreement accepted by the Tel Aviv-Yafo District Court in February 2014, cellular operators have to inform buyers of new mobile phone about the radiation safety instructions, including the minimum distances from the head and the body. Hand-free kits must be provided with every new mobile phone and each cellular operator has to provide information on the safe use of mobile phones on its website. Read more.

The Ministry of Health published <u>Environmental Health in Israel 2014</u> which states that "Precautions should be strictly enforced with regard to children, who are more sensitive to developing cancer." and that "wireless communication networks in schools be reduced." The Health Ministry recommends "sensible use of cellular and wireless technology, including: considering alternatives like landline telephones, use of a speaker while talking on a cellphone, and refraining from installing the base of wireless phones in a bedroom, work room, or children's room." The Report states that "Findings in Israel clearly indicated a link between cellphone use for more than 10 years and the development of tumors in the salivary glands, particularly among people who held the telephone on the same side where the tumor developed and individuals in the highest category of exposure (heavy use in rural areas)."

• Linda S. Birnbaum, Director, USA National Institute of Environmental Health Sciences and National Toxicology Program wrote in the Israeli Report final chapter that, " If some of the studies turn out to be harbingers of things to come, we may have major health consequences from the nearly ubiquitous presence of wireless equipment."

Note: Despite the precautionary recommendations of the Health Ministry and the statements in Education Ministry regulations for the preference of wired (not wireless) networks- the reality is that wireless is still being deployed in schools. The *actual practice* in Israel is different than *the official stance* and this has prompted strong outcry from doctors, parents and citizens for the government to be accountable to children's health. A 2016 News Report shows the complex picture whereby no agency is

assuming responsibility for ensuring protections.

Notable News Stories

<u>2016 TV Report on Israeli government on WiFi Health Concerns: For english subtitles click CC.</u>
2009 News article on the cell phone guidelines in Israel <u>Health Ministry.: Limit Kids' Use of Cell Phones</u>

Notable History

In 2012 Israel's deputy Minister of Health Rabi Litzman stated that he supports a ban on Wi-Fi in schools. Currently the Health Minister is relying on scientific recommendations of Dr. Sadesky.

Read the 2012 Israeli National Activity Report on EMF which states that a joint ministerial committee of the Education & Health & Environmental Protection Ministries gave advice to the Education Minister for ethernet connections in schools- not wireless. The Environmental Protection Ministry asked to limit the use of cell phones in buses and to prohibit the use of cell phones in elevators.

In 2013 a court case moved through the the Israeli Supreme Court on Wi-Fi radiation in classrooms. The 2015 Israeli Supreme court decision was that that the court sees no reason to intervene with the (Israeli) Education Ministry deployments of wireless network at schools.

Israeli Government Links

Ministry of Environmental Protection Webpage on Non-ionizing Radiation, Interactive Map of Cell Tower Locations

Ministry of Health Webpage on Cell Phone Radiation
Israeli National Information Center for Non-Ionizing Radiation TNUDA

Switzerland

- The Switzerland Federal Office for the Environment FOEN has a webpage on Wi-Fi which
 states "caution should be exercised primarily when using devices held close to the body, such as
 laptops, PDAs and Internet telephones.." and gives recommendations on how to reduce
 exposure including turning the Wi-Fi off when not in use, installing the access point one metre
 away from places where you work, sit or rest for long periods of time and keeping laptops off
 laps.
- The Switzerland Federal Office for the Environment FOEN has a webpage on Cell Phones which details ways to reduce mobile phone radiation. FOEN also has additional EMF factsheets on various EMF sources including on baby monitors where they state that "it is advisable to reduce the infant's exposure to emissions as far as possible."
- The 2015 Environmental Report Chapter 17 on Electrosmog states "Effects can also be detected for weak radiation intensity. For example, weak high-frequency radiation can alter electric brain activity and influence brain metabolism and blood flow. Whether these effects have an impact on health is still unclear" and recommends the precautionary principle to reduce risk "Because major gaps still exist in our knowledge about the health impacts of long-term exposure to weak non-ionising radiation, the adopted protective strategy should be pursued consistently." Read it here.
- Switzerland FOEN 2012 Radiation of radio transmitters and Health "In view of the fact that there are gaps in the available data, the absence of proof of health risks does not automatically also mean proof of their absence. From the scientific point of view, a cautious approach in dealing with

- non-ionising radiation is still called for. There remains a need for extensive research into the potential long-term effects"
- The Governing Council of Thurgau Canton 2008 "The Governing Council recommends for schools to forgo the use of wireless networks when the structural makeup of a given school building allows for a wired network." Read a letter by the Council here.

Swiss Physicians Association of Doctors for Environmental Protection

<u>2012 Swiss Physicians Letter</u> "the risk of cancer for this type of [wireless] radiation is similar to that of the insecticide DDT, rightfully banned... From the medical point of view, it is urgent to apply the precautionary principle for mobile telephony, WiFi, power lines, etc."

<u>2014: Preliminary draft for a federal law on the protection against dangers:</u> Non-ionizing radiation (NIS) is growing steadily. Especially the everyday stress in the area of low-frequency and high-frequency. <u>Read it here.</u>

<u>2016: Press Release on the NTP Study and Policy Implications</u>: "There are increasingly clear indications that mobile radio is a health hazard. From a medical point of view it is clear: the scientific results so far show it is clear that prudent avoidance of unnecessary exposures is necessary."

Additional Links by Swiss Physicians for the Environment
 Report on <u>Smartphones- (OEKOSKOP 1/16)</u> <u>AefU-News about Electrosmog</u>

Germany

• The Federal Office for Radiation Protection (FORP) provides tips for reducing radiation exposure to smartphones, tablets and wireless devices stating, "Since long term effects could not be sufficiently examined up to now the Federal Office for Radiation Protection (BfS) recommends to keep exposures to these fields as low as reasonably achievable." Read the precautionary advice here.

"There are uncertainties in the <u>risk</u> assessment that the German mobile communications research programme has not been able to remove completely. These include in particular:

- possible health risks of the long-term exposure of adults to high<u>frequency</u> electromagnetic fields when making mobile telephone calls (intensive mobile use over more than 10 years)
- the question of whether the use of mobile phones by children could have an effect on health.

For these reasons, the BfS continues to consider that precautionary measures are necessary: exposure to electromagnetic fields should be as low as possible."

• Smartphones and Tablets: Read the webpage with recommendations to reduce exposure here:

"Smartphones and tablets for children?

It is particularly important to minimise children's exposure to radiation. They are still developing and could therefore react more sensitively in terms of health."

• The FORP recommends landline phone instead of mobile phone base stations and that schools should <u>not</u> connect wirelessly to the internet. <u>Read a 2015 statement here.</u>

See their poster "Less radiation when Telephoning" here.

<u>The German Federal Ministry</u> for Radiation Protection stated in 2007, "supplementary precautionary measures such as wired cable alternatives are to be preferred to the WLAN system." See original German Bundestag document <u>here</u>, and an English translation <u>here</u>.

<u>Bavaria</u>: The State Ministry of Education and Cultural Affairs: "For precautionary reasons the Federal Office for Radiation Protection recommends for schools that if a wireless network is used to place its components in suitable locations and to prefer the use of wired network solutions whenever possible." In 2007 Parliament recommendation to all schools to *not* install wireless LAN networks.

<u>Frankfurt</u>: "In Frankfurt's schools there will be no wireless networks in the short or mid term. The Local Education Authority did not wish to conduct a "large scale human experiment," said Michael Damian, spokesperson of the Head of the School Department Jutta Ebeling.

2013: Four German Federal Agencies issued a guidebook recommending reducing cell phones and Wi-Fi to young children: "Parenting Guide: Environmental and Child Health" by the Federal Office for Radiation Protection (BfS), the Federal Institute for Risk Assessment (BfR), the Robert Koch Institute (RKI) and the Federal Environmental Agency (UBA). It contains practical information including reducing electromagnetic radiation from baby monitors and telephones: Baby monitors should be as far as possible away from the crib. Phones should be banished from the nursery. They are not suitable toys for infants and toddlers. Use of cabled landline phones is preferable. Wi-Fi routers are are not suitable in children's bedrooms, and should be switched off when not in use, especially at night.

- Download Parenting Guide: Environmental and Child Health here.
- Read a news article about it by clicking here.

Austria

Salzberg: The Public Health Department Advises Against Wi-Fi in Schools: "The official advice of the <u>Public Health Department of the Salzburg Region</u> is not to use WLAN and DECT in Schools or Kindergartens." -Gerd Oberfeld, MD.

The public health department of Salzburg (Landessanitätsdirektion) recommends to evaluate mobile phone base station exposures based on the EUROPAEM EMF Guideline 2016

The Public Health Department of Salzburg lists Electrosmog studies highlighting the EUROPAEM EMF guideline 2016 as representing the current state of medical science that it is used by the Landessanitätsdirektion Salzburg for the health assessment of EMF.

The Vienna Medical Association has issued <u>cell phone safety guidelines</u> stating that cell phones should be used for as short of a time as possible and that children under 16 should not use cell phones at all. They also state that "wireless LAN leads to high microwave exposure".

January 2016: Vienna Medical Association has issued new Ten Cell Phone Guidelines. They are:

- 1. Make calls as short and little as possible use a landline or write SMS. Children and teenagers under 16 years old should carry cell phones *only for emergencies!*
- 2. Distance is your friend- Keep the phone away from body during connection of Phone. Pay attention to the manufacturer's safer distance recommendation in the manual, keep a distance during the call set-up from the head and body. Take advantage of the built-in speakerphone or a

headset!

- 3. When using headsets or integrated hands-free, do not position mobile phones directly on the body special caution applies here for pregnant women. For men, mobile phones are a risk to fertility if Mobile is stowed in Trouser pockets. Persons with electronic implants (pacemakers, insulin pumps et cetera) must pay attention to distance. Unless otherwise possible, use coat pocket, backpack or purse.
- 4. Not in vehicles (car, bus, train) calls without an external antenna, the radiation in the vehicle is higher. In addition, you will be distracted and you bother in public transport the other passengers!
- 5. During the car when driving should be an absolute ban on SMS and internetworking the distraction leads to self-endangerment and endangering other road users!
- 6. Make calls at home and at work via the fixed corded (not wireless) network Internet access via LAN cable (eg via ADSL, VDSL, fiber optic) no Radiation, is fast and secure data transfer. Constant radiation emitters like DECT cordless telephones, WLAN access points, data sticks and LTE Home base stations (Box, Cube etc.) should be avoided!
- 7. Go offline more often or use Airplane mode Remember that for functions such as listening to music, camera, alarm clock, calculator or offline games an internet connection is not always required!
- 8. Fewer apps means less radiation Minimize the number of apps and disable the most unnecessary background services on your smartphone. Disabling "Mobile services" / "data network mode" turns the smartphone again into a cell phone. You can still be reached, but avoid a lot of unnecessary radiation by background traffic!
- 9. Avoid Mobile phone calls in places with poor reception (basement, elevator etc) as it increases transmission power. Use in poor reception Area a headset or the speakerphone!
- 10. For buyers of mobile phones, Look out for a very low SAR value and an external antenna connection!

Read the Press release (in German): http://www2.aekwien.at/1964.py?Page=1&id_news=8972 See The Poster (in German): http://www2.aekwien.at/1964.py?Page=1&id_news=8972 See The Poster (in German): http://www.aekwien.at/aekmedia/Medizinische-Handy-Regeln.pdf See the translated Poster with Tips in English

Austria's" Highest Health Council of the Ministry of Health" has a brochure with advice to reduce exposure to cell phone radiation. It states that since the long term research is still not completed, it is advisable to take simple precautions to reduce exposure. Read the Brochure here. See the WHO Report on Austria's EMF activities and research studies underway here.

India

2012 The Ministry of Communications and Information Technology issued <u>new EMF guidelines</u> with new Exposure Limits *lowered to 1/10 of the ICNIRP level, and* SAR labeling on phones.

Official cell phone radiation guidelines Precautionary Guidelines for mobile users: 1. Keep distance – Hold the cell phone away from body to the extent possible. 2. Use a headset (wired or Bluetooth) to keep the handset away from your head. 3. Do not press the phone handset against your head. Radio Frequency (RF) energy is inversely proportional to the square of the distance from the source -- being very close increases energy absorption much more. 4. Limit the length of mobile calls. 5. Use text as compared to voice wherever possible. 6. Put the cell phone on speaker mode. 7. If the radio signal is weak, a mobile phone will increase its transmission power. Find a strong signal and avoid movement – Use your phone where reception is good. 8. Metal & water are good conductors of radio waves so avoid using a mobile phone while wearing metal-framed glasses or having wet hair. 9. Let the call connect before putting the handset on

your ear or start speaking and listening – A mobile phone first makes the communication at higher power and then reduces power to an adequate level. More power is radiated during call connecting time. 10. If you have a choice, use a landline (wired) phone, not a mobile phone. 11. When your phone is ON, don't carry it in chest/breast or pants pocket. When a mobile phone is ON, it automatically transmits at high power every one or two minutes to check (poll) the network. 12. Reduce mobile phone use by children as a younger person will likely have a longer lifetime exposure to radiation from cell phones. 13. People having active medical implants should preferably keep the cell phone at least 15 cm away from the implant.

- The Parliamentary Standing Committee on Science & Technology, Environment & Forests issued a report in the Rajya Sabha on July 23, 2015, recommending "indigenous methodology and techniques to check the alarming increase in radiation from radio-active signals, RF and Electro-magnetic Fields (EMFs)." The committee said "Indians were more prone to risk from radiations as compared to Europeans because of their low body mass index (BMI) and low fat content. Therefore, comprehensive scientific studies must be conducted to "conclusively establish the level of risks and adverse health effects of electromagnetic radiation (EMR) of cell towers".
- 2013: <u>Supreme Court of India</u> upheld the High Court of the State of Rajasthan decision to remove all cell towers from the vicinity of schools, hospitals and playgrounds because of radiation "hazardous to life." Two hundred and four mobile towers installed on the school premises of Rajasthan have been removed in compliance.
- <u>A Journey for EMF:</u> The Ministry of Communications and Information Technology has developed an <u>EMF webpage</u>.
- <u>Zilla Parishad orders removal of all cellphone towers</u> near schools citing exposure to "harmful radiation".
- Municipal Corporation of Greater Mumbai, the civic body that governs the capital city of Mumbai in Maharashtra (India's richest municipal organization) in 2016 in its new policy on mobile towers, no longer allows cell towers on playgrounds, recreational grounds, gardens and parks. Read news article.
- Read a <u>Document prepared by Dr. Sharma, Sr. Deputy Director of the Indian Council of Medical</u> Research on Indian Research Studies.
- See the Colorful graphic created by the Government Ensuring Safety from Radiations:

 Boundary Towers and Handsets
- Read the 2011 Report: Ministry of Environment and Forest, Government of India's Expert Group study on the possible impacts of communication towers on Wildlife including Birds and Bees
 - "The review of existing literature shows that the Electro Magnetic Radiations (EMRs) are interfering with the biological systems in more ways than one. There had already been some warning bells sounded in the case of bees and birds, which probably heralds the seriousness of this issue and indicates the vulnerability of other species as well."
- Advocates include actress Juhi Chawla who has won multiple awards for her work:
 Global Awards 2016, Indira Gandhi Memorial Awards, Full Speech at Gandhi Awards, 2011
 Lecture, Do's and don'ts for using cellphone safely by Juhi Chawla

Russia

- The Russian National Committee on Non-Ionizing Radiation Protection in <u>ELECTROMAGNETIC</u>
 FIELDS FROM MOBILE PHONES: HEALTH EFFECT ON CHILDREN AND TEENAGERS (2011) has repeatedly <u>warned</u> about electromagnetic radiation impacts on children and recommended
 WiFi not be used in schools.
- Official Recommendations: The Russian Federation specifically advises that those under the

age of 18 should not use a mobile phone at all, recommends low- emission phones; and requires the following: on-device labelling notifying users that it is a source of RF-EMF, user guide information advising that "it is a source of harmful RF-EMF exposure" and the inclusion of courses in schools regarding mobile phones use and RF-EMF exposure issues. "Thus, for the first time in the human history, children using mobile telecommunications along with the adult population are included into the health risk group due to the RF EMF exposure."

- "In children, the amount of so-called stem cells is larger than in adults and the stem cells were shown to be the most sensitive to RF EMF exposure."
- "It is reasonable to set limits on mobile telecommunications use by children and adolescents, including ban on all types of advertisement of mobile telecommunications for children."

<u>Decision of Russian National Committee on Non-Ionizing Radiation Protection</u> 2008, "Children and Mobile Phones: The Health of the Following Generations is in Danger" Video of Russian National Committee, 2014 Lecture

European Environment Agency

- The EEA's issued 2013 Late Lessons From Early Warnings: Chapter 12: Mobile phone use and brain tumour risk: early warnings, early actions? which concludes that "Precautionary actions now to reduce head exposures, as pointed out by the EEA in 2007, and many others since, would limit the size and seriousness of any brain tumour risk that may exist. Reducing exposures may also help to reduce the other possible harms..." Read it here.
- Precautions Recommended: 2011 David Gee, EEA Senior Advisor on Science, Policy and Emerging Issues stated in a press release that "We recommend using the precautionary principle to guide policy decisions in cases like this. This means that although our understanding is incomplete, this should not prevent policy makers from taking preventative action." Read it here.
- 2009 EEA Recommendations based on current evidence (2009) The evidence is now strong enough, using the precautionary principle, to justify the following steps: 1. For governments, the mobile phone industry, and the public to take all reasonable measures to reduce exposures to EMF, especially to radio frequencies from mobile phones, and particularly the exposures to children and young adults who seem to be most at risk from head tumours.
- 2007 Professor Jacqueline McGlade, the EEA's executive director issued a statement that "Recent research and reviews on the long-term effects of radiations from mobile telecommunications suggest that it would be prudent for health authorities to recommend actions to reduce exposures, especially to vulnerable groups, such as children." Read it here.

Singapore

Singapore's National Environmental Agency specifically advises precautions. Below is the exact text found on the Frequently asked Questions About **Radiation Protection**.

"What is NEA's advice to the public on the proper way of using mobile phones amidst all the concerns?

While further research is being carried out to study the long-term health effects of RF field, individuals could take precautionary measures to reduce RF exposure to themselves or their children by limiting the length of calls, or using 'hands-free' devices to keep the mobile phones away from the head and body."

United Kingdom

The UK National Health Service has changed it's advice. Here is the story. As of 2011 it offered specific Recommendations to reduce cell phone radiation exposure to children. Precautions are still recommended, however by 2015 additional website material are no longer present on the site.

- Read the pre 2015 webpage entitled 'Risks of mobile phone use' with recommendations which state; "Children are thought to be at higher risk of health implications from the use of mobile phones. This is because their skulls and cells are still growing and tend to absorb radiation more easily. It is recommended that children use mobile phones only if absolutely necessary."
- Read the UK Department of Health pre- 2015 brochure on mobile phones and health which reads:

"The expert group has therefore recommended that in line with a precautionary approach, the widespread use of mobile phones by children (under the age of 16) should be discouraged for non-essential calls. In the light of this recommendation the UK Chief Medical Officers strongly advise that where children and young people do use mobile phones, they should be encouraged to: • use mobile phones for essential purposes only • keep all calls short - talking for long periods prolongs exposure and should be discouraged The UK CMOs recommend that if parents want to avoid their children being subject to any possible risk that might be identified in the future, the way to do so is to exercise their choice not to let their children use mobile phones."

- Read the 2011 brochure on base stations and health which reads, "Therefore, as a precaution, the UK Chief Medical Officers advise that children and young people under 16 should be encouraged to use mobile phones for essential purposes only, and to keep calls short. If you are concerned, you can take steps to reduce your exposure such as using hands free kits or texting."
- Pre 2011, The NHS also had additional website sections on health effects. The Mobiles and
 mums-to-be webpage was about the research showing cell phone was linked to behavioral issues
 in children. Read it here. The NHS webpage Mobile effect on sleep detailed research which
 concluded RF "is associated with adverse effects on sleep quality within certain sleep stages". These
 webpages were deleted from the current site.
- For the public they had "recommendations to help lower any potential long-term risks" which include keeping calls short, keep phone away from the body on standby mode, only use it when the reception is strong and use a phone with an external antenna.
- 2002 The Stewart Report commissioned by the UK Government found that exposure to RF radiation below guidelines has not been "proven" to cause adverse health effects but it is not possible to say "that exposure to RF radiation, even at levels below national guidelines, is totally without potential adverse health effects" as "there is some scientific evidence which suggests that there may be biological effects and gaps in knowledge justify a precautionary approach to the use of mobile phone technologies until much more detailed and scientifically robust information on any health effects becomes available."
- Check out a slide presentation on people and wireless radiation by NHS here.

Then, the UK National Health service <u>changed</u> the public advice text. Everything noted *above* was reworded. *Now* the website states:

• "If there are any health risks from the use of mobile phones, children might be more vulnerable because their bodies and nervous systems are still developing. Research carried out to date

hasn't supported a link between mobile phone use and childhood cancers such as leukaemia. However, if you have any concerns, you can lower your child's exposure to radio waves by only allowing them to use mobile phones for essential purposes and keeping calls short." Read this new text here.

- See the brochure (2011) entitled <u>"Mobile phones and base stations: Health advice on using mobile phones"</u> which states: The body and nervous system are still developing into the teenage years. Therefore, as a precaution, the UK Chief Medical Officers advise that children and young people under 16 should be encouraged to use mobile phones for essential purposes only, and to keep calls short.
- The newly edited section called Mobile phone safety FAQs states:

Do scientists know everything about mobile phones and health?

No, and research is continuing. Mobile phones have only been widely used for about 20 to 30 years, so it's not possible to be so certain about the safety of long-term use. More research on the effects of mobile phones on children is also needed, as they're known to be more sensitive than adults to many environmental agents, such as lead pollution and sunlight. Government advice is to be on the safe side and limit mobile phone use by children.

2016 The Control of Electromagnetic Fields at Work Regulations 2016 (CEFAW) requires employers to assess the levels of EMFs their employees may be exposed to, ensure compliance, provide information on risks and take action if necessary. Legislation http://www.legislation.gov.uk/uksi/2016/588/pdfs/uksi 20160588 en.pdf

• "You must ensure you take workers at particular risk, such as expectant mothers and workers with active or passive implanted or body worn medical devices, into account when appropriate, devise and implement an action plan to ensure compliance with the exposure limits." Read news article on regulations.

Cyprus

"Be Precautionary and reduce exposure to phones, Wi-Fi and other wireless devices," states the Cyprus National Committee on Environment and Child Health (ECH). Dr. Stella Michaelidou, President of the ECH, states that society should respond by taking precautions because "Documentation of other potential and more serious biological side effects are on the tip of an emerging iceberg." This stance was documented in a recent news article that quotes Michaelidou stating that "multiple and frequent exposure to this kind of radiation, which falls below the acceptable levels of thermal effects, pose a health risk to a developing embryo." and children who use their mobile phone more frequently face a higher risk at having a weaker memory, attention deficit disorder, and similar issues.

<u>The Cyprus National Committee on Environment and Child Health</u> supported by Cyprus "has as its basic aim the prevention of illnesses, which also are related with the exposure of children in environmental dangers." The activities of the National Committee are supported by the State of Cyprus. <u>Read about the Committee and it's mission on their website here (click on the British flag to get the English translation.)</u> **Official Statements and Documents**

- Protecting children from radiation emitted by Wi-Fi, mobile phones and wireless by Dr. Stella Kanna Michailidou of the National Committee Chairman "Environment and Children's Health"
- See the Commission's EMF brochure on reducing the risks to children from exposure to the Non

- Ionizing Radiation (mobile phones, Wi-Fi, tablets, etc.).
- The National Committee on Environment and Children's Health Website Information on EMFs can be acessed at http://www.cyprus-child-environment.org/easyconsole.cfm/id/324

PSA Video Children's Health and Wi-Fi

- The Cyprus National Committee on Environment and Child Health created a short PSA for citizens about children and wireless radiation and how to reduce Wi-Fi exposure.
- Watch the greek version here https://www.youtube.com/watch?v=996vzcCYCnE
- Watch the video translated into english here https://www.youtube.com/watch?v=996vzcCYCnE

Scientific presentations:

- See the 12/2015 Powerpoint Slide Presentation by the President of the Commission, Dr. Stella Kanna Michaelides on EMFs (in Greek) <u>by clicking here</u> and Dr Michaelis Tornaritis on media use (in Greek) <u>by clicking here</u>.
- <u>IOANNINA UNIVERSITY COURSES IN PATHOLOGY</u> Neurological and behavior effects of Non lonizing Radiation emitted from mobile devices on children: Steps to be taken ASAP for the protection of children and future generation by_Dr. Michaelidou of the Cyprus National Committee on Environment and Health. English slides at this link.

News Reports

- Watch the President of the Cyprus National Committee "Environment and Health of the Child" presents the issue of Electromagnetic radiation and its effects on children's health. April 2016
- https://www.youtube.com/watch?v=DatZGSq3bL4
- Sigma TV News Report on children and Wi-fi https://www.youtube.com/watch?v=WumF2qOUKrU
- Watch the president of the National Committee "Environment and Child Health" with Professor Loukas Margaritis speaking in a news piece. https://www.youtube.com/watch?v=WumF2qOUKrU
- 2015 In-Cyprus News Report: Mobile devices could harm kids
- 9/2015 News Report Cyprus Mail: '<u>Technology harming our children' MPs say</u>

Argentina

2016 National law on electromagnetic pollution *proposed*: The law proposes a regulatory framework to "radio infrastructure with radiant systems, antennas and all installations capable of generating electromagnetic radiation" in order to "ensure the protection of public health" considering "both thermal effects and biological. " In education and health facilities only wired connections to data networks and Internet access may be used. Translated Article. Original text:

Taiwan

In 2015 the government *Updated their* Protection of Children and Youths Welfare and Rights Act to ban cell phones for young children. Read it here.

- Complete ban on children under the age of two from using electronic devices such as iPads, televisions and smartphones.
- Parents can be fined NT\$50,000 (about \$1600 US Dollars)
- The new law also states that parents must ensure that under-18s only use electronic products for a 'reasonable' length of time.
- Read a news article: Daily Mail- <u>Taiwan makes it ILLEGAL for parents to let children under two</u> use electronic gadgets... and under-18s must limit use to 'reasonable' lengths"

Namibia

Namibia's atomic energy review report states that current so called "safety" standards DO NOT protect

citizens from long term health effects.

 "ICNIRP guidelines do not guarantee adequate protection against the long term effects of exposure, such as increased risk of cancer. "-Republic of Namibia:Atomic Energy Board: <u>The Atomic Energy Review</u>

Turkey

The Ministry of Health has issued public information brochures that recommend limiting exposure especially for pregnant women and children. In addition the Ministry is developing regulation on prohibiting phone use for children. The EMF in schools is monitored and the public can get measurements on EMF levels from cell towers and schools at a national site.

- See the Ministry of Health Brochure Mobile Phones and Health Effects: The Brochure starts by saying the research on cell phone radiation shows low levels of electromagnetic frequencies "may cause cancer". 13 Recommendations to Reduce Exposure which include: Pregnant women and children (under 16) are more vulnerable and they should use the phone only when necessary, Prefer speaker or headset, Decrease time on phones, Use low SAR phone, Keep phone away from the body, Keep phones out of baby and children's bedroom, Turn phone off when you sleep or keep it one meter away from bedside, using phones in cars increases your EMF exposure so it is not recommended.
- Education on Safer Phone Use: <u>A Project funded by Ministry of Internal Affairs</u>, accomplished by Temkoder (Prevention, Measurement of Electromagnetic Pollution and Training Organization) resulted in secondary school student training in the safer usage of cellular phones.
- Development of regulations prohibiting children's cell phone use. In 2014, the Ministry of
 Health started working on new regulations to prohibit cellphone usage for children under 14
 year-old children.(See Turkey's 2014 World Health Organization EMF Report here). However by
 2016 the regulation was weakened and in the 2016 WHO EMF Report Turkey states that they are
 developing regulations that only would pertain to children under 7 years old.
- The Ministry of Communications and Maritime Affairs monitors Electromagnetic fields around the schools and homes. See the website here http://ema-olcum.btk.gov.tr/.

Greece

Greek law mandates lower RF exposures near schools, nurseries and hospitals:The exposure limits in Greece are the 70% of the official European limits. In areas less than 300 m from schools, hospitals and nurseries the exposure limit is lower at 60% of the official European limits. Cell antennae are prohibited from being on top of schools and nurseries.

2012: The Greek government website materials recommend reducing cell phone radiation to children under 16 and they inform citizens of non-ionizing radiation power levels in their community.

- The National Observatory of Electromagnetic Fields which is an interactive web portal linked to a
 network of 500 fixed measurement stations throughout Greece that continuously monitor the
 EMF levels from all kinds of antenna stations in the frequency range 100 kHz 7 GHz.
- ELF and EMF Site Measurements can be looked up for various locations at <u>EEAE</u>.
- The Greek government funds research as detailed on the WHO EMF report here.

 The Q and A on RF radiation states the following text about children. Read it here on page 32 and 33

Even though it hasn't been proven conclusively that children are more sensitive/reactive than adults to exposure to radiation, nevertheless, the direct/pointed recommendation of international organizations is that children be discouraged from [literally translated, <u>learn not to trust</u>] using cell phones. The above statement is supported by the following:

- 1. Up to about the age of 16, the nervous system of the human body is in the process of development. Consequently, it's totally possible (although not conclusively proven by relevant scientific research) that up until this age, human being are more sensitive to any number of factors/elements/determinants.
- 2. Younger people have more years ahead of them than older persons during which the long –term effects of mobile phones can be manifested.
- 3. Environmental factors/elements have a greater general impact on the health of children than on the health of adults."

Chile

2012, Law No 20.599, The Antennae Law 'Regulates the installation of antennas used for the emission and transmission of telecommunications services' This law limits the power of antennas, reduces urban impact of towers through 'infrastructure sharing' opens up a process for citizen participation in the approval or denial process, establishes mitigation measures in areas that are saturated with antennas and prohibits towers near "sensitive areas" institutions serving children, the elderly and medically compromised.

Cell antennae/towers are prohibited in "sensitive areas".

- Sensitive areas are those areas that demand special protection due to the presence of educational institutions, nurseries, kindergartens, hospitals, clinics, nursing homes or other institutions of similar nature.
- Read New communications antenna law in Chile in the International Bar Association Legal Practice Division Newsletter for details on the Law. Read a Press release with summary.
- Read RCRWireless article <u>Chilean telecom companies need to comply with new antenna</u>

 law
- Chile's Minister of Transportation and Telecommunications Pedro Pablo Errazuriz stated, "...in addition to protecting the urban landscape and the goodwill of the neighborhoods, the new law takes care of the most important: the health of people in a precautionary manner as recommended by the World Health Organization, setting strict limits on the powers of the antennas. Chile is setting standards in this regard."

Ireland

The Irish Department of the Environment, Community and Local Government has a webpage on Electromagnetic fields which directs people to the advice of the Chief Medical Officer.

"Advice from the Chief Medical Officer on mobile phone use: We may not truly understand the health affects of mobile phones for many years. However, research does show that using mobile phones affects brain activity. There is general consensus that children are more vulnerable to radiation from mobile phones than adults. Therefore the sensible thing to do is to adopt a precautionary approach rather than wait to have the risks confirmed.

In the light of these findings, the Chief Medical Officer of the Department of Health and Children strongly advises that children and young people who do use mobile phones, should be encouraged to use mobile phones for "essential purposes only" All calls should be kept short as talking for long periods prolongs exposure to radiofrequency electromagnetic fields.

All mobile phone users can reduce their exposure to radiofrequency energy by making fewer calls, reducing the length of calls, sending text messages instead of calling, using cell phones only when landline phones are unavailable, using a wired "hands free" device so that the phone need not be held against the head and refraining from keeping an active phone clipped to the belt or in the pocket".

Read the Advice of the Chief Medical Officer of Ireland.

Irish Doctors Environmental Association

The Irish Doctors Environmental Association wrote a statement in 2013 concerning health concerns with Wi-Fi in school:

"We urge you to use wired technologies for your own safety and that of your pupils and staff." Read the 2013 Letter

Denmark

Denmark Board of Health states: "As a precautionary measure, the Board of Health recommends a series of simple steps you should follow to reduce exposure from <u>mobile phones</u>:

- Use the headset or handsfree with earbud, conversation, or use the speakerphone feature
- When possible, use text instead of call
- Limit the duration of calls
- Did not sleep with the phone close to the head
- Limit conversations during low reception and while in transport.
- Do not cover the phone with aluminum foil, special covers, etc.
- Compare phones' SAR value. Lower SAR require less exposure
- Denmark Board of Health Recommendations on Reducing Cell Phone Radiation

Tanzania

2014: Director General of Tanzania Atomic Energy Commission (TAEC), Mr Idy Mkilaha publicly endorses precaution.

"Mr Mkilaha says that when weighing up this convenient tool with the questionable health impact control, caution and measures must be taken to reduce one's exposure from radio frequency (RF)

emissions from the cell phone to prevent health hazards."

"According to TAEC, we should use hands-free devices or wireless headset to increase the distance between the phone and our heads. This is the best approach because it creates distance between us and the radiating phone...

We should also keep phone away from us when dialling. Phones use more radiation during connection time, says TAEC."

Read News Report: <u>Tanzania</u>: <u>We Should Manage Our Cell Phones Properly Otherwise</u>.

Read Tanzania Daily News: <u>Tanzania</u>: <u>Need to Protect Oneself When Using Cell Phone</u>

<u>Read the Tanzania Commission for Science and Technology Newsletter detailing how to reduce cell phone</u> exposure (page 11)

After complaints were raised by residents about health effects the Commission co-authored a published paper that reviews national RF level profiles of the radiation emitted from base stations. Read Review on Measured and Calculated Radio Frequency Radiation Emission From The Base Stations which states that

In 2016, <u>Director General of Tanzania Atomic Energy Commission (TAEC)</u>, <u>Mr Idy Mkilaha died under investigated circumstances</u> and at this time EHT is unable to find the Reports or official warnings as mentioned in the news reports on the current <u>Atomic Commission</u> webpage.

Ireland

Irish Doctors Environmental Association

The Irish Doctors Environmental Association wrote a statement in 2013 concerning health concerns with Wi-Fi in school:

"We urge you to use wired technologies for your own safety and that of your pupils and staff." Read the 2013 Letter

United States

Legislation has been introduced at the state and national level. Some Communities have issued proclamations, resolutions and and started initiatives to inform the public of wireless health issues.

CELL PHONE AND WIRELESS LABELING

2014 California, Berkeley: May 12, 2015 Berkeley Adopted the Cell Phone "Right to Know" Ordinance on a Unanimous Vote. Berkeley is the first city in the nation to require cell phone retailers to provide those who purchase a new phone an informational fact sheet which informs buyers to read the user manual to learn the cell phone's minimum separation distance from the body. The text states:

"The City of Berkeley requires that you be provided the following notice:
To assure safety, the Federal Government requires that cell phones meet radio frequency (RF) exposure guidelines. If you carry or use your phone in a pants or shirt pocket or tucked into a bra when the phone is ON and connected to a wireless network, you may exceed the federal guidelines for exposure to RF radiation. Refer to the instructions in your phone or user manual for

information about how to use your phone safely." Full text here.

Watch <u>a video of the historic vote</u> featuring Harvard Law professor Lawrence Lessig.

Watch <u>a video of testimony to Berkeley</u> from November 8, 2011 on the need for cell phone guidelines.

Watch a video of the <u>September 2016 Federal Appeals Court Hearing oral arguments CTIA vs. Berkeley as the CTIA tries to strike down the <u>Ordinance</u>. This the hearing considering whether to overturn the district court's decision that denied the CTIA's request for an injunction to block Berkeley's cellphone ordinance.</u>

2014 New York: Wireless Router Labeling in all Suffolk Public buildings: 12/2014 The Suffolk County Legislature passed legislation to require all county buildings to post notices that wireless routers are in use such as, "Notice: Wireless technology in use." The resolution, sponsored by Legis. William Spencer (a physician), warns that every wireless device emits radio frequency radiation or microwave radiation. It notes that studies "that have looked at the effects of low-level RFR radiation on human cells and DNA have been inconclusive." Read Press Release.

2011 San Francisco, California: A *Passed* 2011 Ordinance by the City of San Francisco required cell phone retailers to distribute an educational sheet created by the San Francisco Department of Environment that explains radiofrequency emissions from cell phones and details how consumers can minimize their exposure. However implementation was blocked after a three-year court battle. The CTIA sued the city and settled with the City to block implementation of the Ordinance in exchange for a waiver of attorney's' fees. Although implementation was halted, the City Cell Phone Radiation Webpage remains online.

- Read the Open Letter to San Francisco Mayor and Board of Supervisors
- Read San Francisco's Cell Phone Fact Sheet is Factual
- Watch video from testimony to the City of San Francisco
- Watch video of San Francisco Supervisor discussing the Ordinance here.
- Watch a press conference with surviors speaking on cellphone health risks at the San Francisco Commonwealth Club. Cellphone cancer victims tell their personal stories and those of their lost loved ones.

PUBLIC SCHOOLS

2016: Petaluma Public Schools, California USA: Public school district adopts <u>"iPad Best Practices"</u>. Parents raised the issue of wireless health risks with the district for years (<u>Videos of Parent Testimony to District</u>, <u>Child Testimony</u>, <u>Read Doctors Letters to District</u>). The school is now taking steps to reduce wireless exposure- Ipads off children's laps and Ipads at a distance, wireless turned off the device unless necessary.

Best Practice Recommendations state:

"Turn on Airplane Mode in Settings whenever you don't need an internet connection. This will prevent wireless transmissions..."

"Keep it on the Desk: The best place for your iPad to sit during use is on a desk, table or other flat surface."

2016: Onteora School District in New York State USA: Public School district adopts "Best Practices with Wi-Fi Read the April 20, 2016 Meeting Minutes Page 2." Turn off the device when not in use and at the end of each day. If device is to stay on, turn Wi-Fi off when not in use. Always place device on a solid surface. Viewing distance should be a minimum of 12 inches from the screen. Staff was asked by

the Principals to post this in areas that contain computers and devices. They are reminding staff to follow it."

2015: Ashland Public Schools, Mass (USA): The District has passed "Best Practices" to turn the WiFi off when not in use and keep devices away from the body <u>Download Slides</u>. <u>Video of parent who initiated this</u>. <u>Video of school board member</u> discussing the process. <u>Read Magazine article on Ashland's Decision Here</u>. <u>Newspaper Coverage</u>, <u>Watch TV Program of CeCe Doucette and Keith Marciniak discussing the policy changes</u>.

Los Angeles California Public Schools

- The LA School District Uses a RF-EMF Exposure Threshold 10,000 Less Than the FCC Limits: Read the RF Report the LA School District Used to recommend a cautionary exposure level. RADIOFREQUENCY (RF) EVALUATION REPORT Use of Wireless Devices in Educational Settings
- 2009 LA School Board Resolution Banning Cell Towers from schools and recommending against WiFi. Read the adopted resolution <u>HERE</u>. 2009 Resolution <u>Condemning Cell towers NEAR</u> Schools as was this T-Mobile Cell Tower across the street from an elementary school. <u>Read it</u> here.
 - Read the motion by Supervisors Zev Yaroslavsky and Michael Antonovich
- 2000 LA School Board Resolution Opposing Cell Tower Placement on Schools and calling for precautions with wireless. 'Whereas, Recent studies suggest there is evidence that radio-frequency radiation may produce "health effects" at "very low field" intensities' Read it here.

SEE A FULL LIST OF PUBLIC AND PRIVATE SCHOOLS THAT REMOVED WI-FI LATER IN DOCUMENT

HEALTH ADVICE TO THE PUBLIC

2016: American Academy of Pediatrics Issues Recommendations to Reduce Exposure

The AAP has updated their <u>Healthy Children Webpage on Cell Phones</u> entitled *Cell Phone Radiation & Children's Health: What Parents Need to Know.* The webpage reiterated children's unique vulnerability to cell phone radiation stating, "Another problem is that the cell phone radiation test used by the FCC is based on the devices' possible effect on large adults—not children. Children's skulls are thinner and can absorb more radiation." The AAP issued the following cell phone safety tips specifically to reduce exposure to wireless radiation:

- Use text messaging when possible, and use cell phones in speaker mode or with the use of hands-free kits.
- When talking on the cell phone, try holding it an inch or more away from your head.
- Make only short or essential calls on cell phones.
- Avoid carrying your phone against the body like in a pocket, sock, or bra. Cell phone
 manufacturers can't guarantee that the amount of radiation you're absorbing will be at a safe
 level.
- Do not talk on the phone or text while driving. This increases the risk of automobile crashes.
- Exercise caution when using a phone or texting while walking or performing other activities. "Distracted walking" injuries are also on the rise.

- If you plan to watch a movie on your device, download it first, then switch to airplane mode while you watch in order to avoid unnecessary radiation exposure.
- Keep an eye on your signal strength (i.e. how many bars you have). The weaker your cell signal, the harder your phone has to work and the more radiation it gives off. It's better to wait until you have a stronger signal before using your device.
- Avoid making calls in cars, elevators, trains, and buses. The cell phone works harder to get a signal through metal, so the power level increases.
- Remember that cell phones are not toys or teething items.
- Press Release: The AAP responds to study showing link between cell phone radiation, tumors in rats May 27, 2016

2015 AAP Healthy Child Web Page on Electromagnetic Fields: A Hazard to Your Health?

This webpage states:

"Cell Phones: In recent years, concern has increased about exposure to radio frequency electromagnetic radiation emitted from cell phones and phone station antennae. An Egyptian study confirmed concerns that living nearby mobile phone base stations increased the risk for developing: *Headaches, Memory problems, Dizziness, Depression, Sleep problems*Short-term exposure to these fields in experimental studies have not always shown negative effects, but this does not rule out cumulative damage from these fields, so larger studies over longer periods are needed to help understand who is at risk. In large studies, an association has been observed between symptoms and exposure to these fields in the everyday environment."

2013 AAP Letter to FCC Commissioner Mignon Clyburn and FDA Commissioner Margaret Hamburg calling for a review of RF guidelines 8/29/2013

2012 AAP Letter to US Representative Dennis Kucinich in Support of the Cell Phone Right to Know Act Time Magazine (2012): Pediatricians Say Cell Phone Radiation Standards Need Another Look

2012, the AAP published Pediatric Environmental Health, Textbook of Children's Environmental Health 3rd Edition edited by Philip J. Landrigan, Ruth A. Etzel. Chapter 41: Electromagnetic Fields. Read it on Google Books Chapter 41: Electromagnetic Fields at this link page 383. Oxford Medicine Chapter 41 Link

AAP News 2011: *More study needed on risk of brain tumors from cell phone use* by Ruth A. Etzel, AAP News, Oct 2011

The California Medical Association, USA

The California Medical Association (CMA) passed a Wireless Resolution in 2014 that states:

"Whereas scientists are increasingly identifying EMF from wireless devices as a new form of environmental pollution ...

Whereas peer reviewed research has demonstrated adverse biological effects of wireless EMF including single and double stranded DNA breaks, creation of reactive oxygen species, immune dysfunction, cognitive processing effects, stress protein synthesis in the brain, altered brain

development, sleep and memory disturbances, ADHD, abnormal behavior, sperm dysfunction, and brain tumors; and...Resolved, That CMA support efforts to implement new safety exposure limits for wireless devices to levels that do not cause human or environmental harm based on scientific research." Read the full CMA Resolution here.

Read a the Santa Clara Medical Bulletin article by Dr. Cindy Russell that explains the CMA resolution and gives recommendations for schools.

2014: The Connecticut Department of Public Health has issued specific recommendations to reduce exposure to cellphone radiation. It is notable that the Department has provided information more in depth than the CDC, EPA and FDA in detailing 7 steps on *how* people can reduce exposure. Furthermore, the Department states *"It is wise to reduce your exposure to radiofrequency energy from cell phones whenever possible."* Read the Connecticut Department of Public Health Cell Phone Q and A about Cell phones here.

2016: Massachusetts Department of Health: Minimizing Exposure to RF

"Below are common recommendations and include those for both cell phone and non-cell phone sources:

- Use wired communication devices instead of wireless devices
- Limit children's use of cell phones except for emergencies
- Keep cell phones and other sources at a distance
- If using wireless devices like computers, laptops, tablets, and printers, place the wireless router away from where children and adults usually spend time.
 Read these recommendations from the Department of Health in full at this link.

2014 Maryland, Greenbelt: The Greenbelt Maryland City Council voted **unanimously** on November 24, 2014 to do the following:

- 1. Alert citizens about the fine print warnings and possible health risks of cell phones and wireless devices By sharing the Environmental Health Trusts 10 Steps to Safe Tech and Doctors Advice on Cell Phones Brochure in City health fairs and city centers.
- 2. To send the FCC Chairman a letter urging the adoption of "radiation standards that will protect human health and safety." <u>Download the letter here.</u>
- 3. To oppose cell towers on school grounds and write a letter to the local school board and County Executive.

- Answers on How to reduce exposures to cell phone radiation.
- A Poster on Cell Phones and RF Radiation
- A Factsheet for the Public
- Display stickers for Cell Phone packaging.

2012 Wyoming: Jackson Hole issued a Proclamation of Cell Phone Awareness which cites concern over long term health effects as well as the increased risk that the radiation poses to children.

2012 Florida: Pembroke Pines, passed Resolution 3362 expressing the City's "Urgent Concerns"

about Wireless Radiation and Health and which encourages citizens to read their manuals and presents information on how to reduce exposure by using a headset or speakerphone. Jimmy Gonzalez, an attorney who had developed brain cancer after heavy cell use, initially petitioned the Commission. Watch the Video of his powerful testimony here.

2010 California, San Francisco: Cell Phone Radiation (How to Reduce Exposures) Webpage launched. Answers on how to reduce exposures to cell phone radiation. The City developed a poster, factsheets and display stickers with public health information.

2010 California: Burlingame California City Council voted to include cell phone safety <u>guidelines</u> in their Healthy Living in Burlingame initiative (WHO classification and consumer precautions).

2010 Maine, Portland :Mayor Mavodenes, Jr. declared October "Cell Phone Awareness Month"

Colorado 2009 The Governor of Colorado issued a Proclamation on Electrical Hypersensitivity. "Electromagnetic Sensitivity is a painful chronic illness of hypersensitive reactions to electromagnetic radiations.

WHEREAS, the symptoms of EMS include, dermal changes, acute numbness and tingling, dermatitis, flashing, headaches, arrhythmia, muscular weakness, tinnitus, malaise, gastric problems, nausea, visual disturbances, severe neurological, respiratory, speech problems, and numerous other physiological symptoms.

WHEREAS, Electromagnetic Sensitivity is recognized by the Americans with Disabilities Act, the US Access Board and numerous commissions;" Read the Proclamation HERE.

May 2009 The Governor of Connecticut issued a Proclamation on Electrical Hypersensitivity. "WHEREAS, the health of the general population is at risk from electromagnetic exposures that can lead to illness indicted by electromagnetic radiations; and, WHEREAS, this illness may be preventable through the reduction or avoidance of electromagnetic radiations, in both outdoor and indoor environments and by conducting further scientific research; and, "Read the Proclamation HERE.

Broward County Florida May 2009, The Mayor issued a Proclamation on Electrical Hypersensitivity.

"WHEREAS, as a result of global electromagnetic pollution, people of all ages in Broward County and throughout the world have developed an illness known as Electromagnetic Sensitivity; and, "Read it all HERE.

US Proposed Legislation

2012 National Law The Cell Phone Right to Know Act H.R. 6358 was introduced receiving strong support from many organizations including the American Academy of Pediatrics. (AAP Letter here.) This legislation called for labels on mobile devices at point of sale, a comprehensive national research program to study whether exposure to wireless devices causes adverse biological effects directed by NIEHS and the EPA and exposure level regulation.

HR 6358 received strong **s**upport from the American Academy of Pediatrics Read the AAP Letter <u>here</u>. Congressional hearings in 2009 provided expert testimony to Congress. <u>Watch CSPAN VIDEO</u>.

Library of Congress Summary: Written by the Congressional Research Service

Cell Phone Right to Know Act - Requires the Director of the National Institute of Environmental Health Sciences and the Administrator of the Environmental Protection Agency (EPA) to:

- conduct or support a comprehensive research program to determine whether exposure to
 electromagnetic fields from mobile communication devices causes adverse biological effects in
 humans, including vulnerable subpopulations such as children, pregnant women, those with
 compromised immune systems and hypersensitivity reactions, men and women of reproductive
 age, and the elderly;
- 2. disseminate research results to the general public; and
- 3. report findings and conclusions to Congress.

Directives:

- Directs the Federal Communications Commission (FCC) to promulgate regulations to allow a subscriber to access personally or to give consent to allow researchers with institutional review board approval to access specific usage data required to investigate the link between electromagnetic radiation exposure and potential adverse biological effects in humans.
- Directs the EPA to promulgate regulations establishing maximum exposure level goals and maximum exposure levels for exposure to electromagnetic fields generated by mobile communication devices.
- Directs the Commissioner of Food and Drugs (FDA) to promulgate regulations to provide for labeling (including exposure ratings and the maximum allowable exposure levels and goals) on mobile communication devices, packaging, instruction manuals, and at points of sale in stores and on websites.
- Requires the Secretary of Health and Human Services (HHS) to increase: (1) the number and size of grants to institutions for training scientists in the field of examining the relationship between electromagnetic fields and human health; and (2) the number of career development awards for such training for health professionals pursuing careers in pediatric basic and clinical research, including pediatric pharmacological research.

Amends the Public Health Service Act to establish a graduate educational loan repayment program and authorize national awards for researchers in such fields.

Amends the Communications Act of 1934 with respect to the prohibition on state or local government zoning regulation of personal wireless service facilities on the basis of the environmental effects of radiofrequency emissions. Excludes from such prohibition state or local regulation based on the adverse human health effects of emissions of radiofrequency electromagnetic fields.

2015 NEW Massachusetts proposed MA <u>Senate Bill 1222:</u> An Act creating a special commission to study the health impacts of electromagnetic fields and <u>Bill H2007</u>: An Act relative to a special commission to study electric and magnetic fields. *Bills Still in Process as of August, 2015.* <u>Watch a view of the statehouse briefing on RF here.</u>

2015 Nassau County will have a proposed Wireless Router Labeling Act that would place visible warning signs in all county buildings and facilities where a wireless router is located.. Please read recent coverage of the initiative here.

2014 <u>The Maine LD 1013</u> "The Wireless Information Act" passed the State Senate and House but then failed to pass the second vote. The Bill requires manufacturer's information on radio-frequency exposure be visible on the outside of the cell phone's product packaging.

- Please a video of State Representative Andrea Boland on how the legislation was thwarted.
- Read Maine's "Cellular Telephone Labeling Act" -April 17, 2015
- Read Cell Phone Radiation Label Bill Passes Maine Legislature Before Dying

The <u>San Francisco Cell Phone Right to Know Ordinance</u> was signed in 2011 requiring cell phone retailers to distribute an educational sheet created by the San Francisco Department of Environment that explains radiofrequency emissions from cell phones and how consumers can minimize their exposure. The CTIA sued the city and settled with the City to block implementation of the Ordinance in exchange for a waiver of attorneys' fees. The City <u>Cell Phone Radiation Webpage</u> remains online.

2015 Oregon HB 3350: This proposed legislation directs the Department of Education to prepare statement that discloses potential health risks of wireless technology and requires public and private schools to distribute statement to employees and parents of students. It declares an emergency effective July 1, 2015. Read the Bill here.

2015 Oregon HB 3351: This proposed legislation states that cell phones must have a visible written label that advises consumers of possible risks and steps that consumers can take to reduce the risk of radio-frequency radiation exposure from cellular telephone use. Read it here.

2014 Hawaii Senate Bill SB 2571 was introduced calling for a warning label encouraging consumers to follow the enclosed product safety guidelines to reduce exposure to radiation that may be hazardous to their health.

<u>SB 932</u> **California:** This 2011 legislation would have required retailers to include notices on product packaging that cell phones emit radio frequency (RF) energy. A second notice would be posted at the point of sale when purchasing online or in a physical store.

HM 32, New Mexico: This 2011 proposed law request the Department of Health and the Department of Environment to study and review all available literature and reports on the effects of cell phone radiation on human health.

<u>HB 1408</u> Pennsylvania: This 2011 proposed law would require warning labels on cell phones "to inform all citizens about possible health dangers that have been linked to microwave radiation that is emitted by cellular telephones and the steps that can be taken to mitigate those dangers, especially as they relate to children and pregnant women."

Dr. Ronald B. Herberman, former director of the University of Pittsburgh Cancer Institute (UPCI) and the UPMC Cancer Center offered testimony at a PA House Democratic Policy Committee hearing. CBS Local coverage of hearing <u>HERE</u>. Philadelphia Tribune News coverage <u>Here</u>.

<u>SB 679</u> Oregon: This 2011 proposed law would require warning labels for all new cell phones and cell phone packaging. <u>Watch a news video about the law here.</u>

H.R. 2835 In 1999 Congressman Bernie Sanders sponsored H.R. 2835 (106th): To require an assessment of research on effects of radio frequency emissions on human health.

(Note: This document does not cover ALL EMF policy but is simply a sampling. Please feel free to contact EHT to send documentation of other policy actions.)

Schools Worldwide Removing the WiFi/Taking Action

2016: Haifa, Israel: Haifa Mayor Yona Yahav(of Israel's 3rd largest city) ordered all schools to have wireless removed and replaced with wired connections. Read Krayot article. Hamodia article. Related Reshet TV Report Watch News Report with unofficial English translation Watch News Report on Supreme Court Case in Israel

2016 Lowell School, Washington DC: In the kindergarten wing, the Wi-Fi hotspots were removed and the teachers are given ethernet and adapters so that computers and class technology can be ethernet connected (corded) to reduce RF-EMF exposure.

2016 Italy: Turin Mayor Chiara Appendino laid out plans "to cut back on Wi-Fi in state schools and government buildings over concerns that radiation might damage people's health". Read 7/2016 News Report Turin could slash Wi-Fi over 'radiation' concerns

2016: Onteora School District in New York State USA: District adopts "Best Practices with Wi-Fi Read the April 20, 2016 Meeting Minutes Page 2." "Turn off the device when not in use and at the end of each day. If device is to stay on, turn Wi-Fi off when not in use. Always place device on a solid surface. Viewing distance should be a minimum of 12 inches from the screen. Staff was asked by the Principals to post this in areas that contain computers and devices. They are reminding staff to follow it."

2016 Italy: Mayor of Borgofranco d'Ivrea (Italy) orders Wi-Fi to be turned off in schools. "Mayor Livio Tola told the town's high school and elementary school to return to using cables to connect to the internet after reading that the electromagnetic waves given off by wireless routers were especially harmful to young children." Read the newspaper article here. Read the News article here "Ivrea, The Mayor Removes WiFi as it Could Be Dangerous".

2016: Rotokawa School New Zealand, implemented steps to minimize RF Exposure Children use ipads in flight mode on desk and parents may request that their child use an Ethernet cord. Children are taught about the health precautions as part of their cyber citizenship.

2016: <u>Istituto Comprensivo Alighieri- Diaz in Lecce Italy</u> has banned wifi. Their two resolutions decided: a) to ban wifi in school and install a wired system for the use of internet and b) Reject the request of the local government (Municipality) to install an antenna on the school roof for the wireless signal providing for the "Wireless city" program. The resolution also asks the Municipality to install the antenna at a reasonable distance from school.Read the official resolutions number 1 here and Resolution 2 Here.

2016: The Piemonte Region has adopted a resolution to limit EMF exposure, to limit the use of wifi in schools and be considerate to the problem of EHS people. Read about it here.

2015: <u>Ashland Public Schools, Mass (USA)</u>: "Best Practices" to turn the WiFi off when not in use, <u>Download Slides</u>. <u>Video of parent who initiated this</u>. <u>Video of school board member</u> discussing the process. <u>Read Magazine article on Ashland's Decision Here</u>.

2016: Shearwater The Mullumbimby Steiner School, Australia, 100% Wi-Fi Free School

2016: Yallingup Steiner School Australia, WiFi Free Classrooms

- 2016: Linuwel School, Australia, WiFi in some classrooms, Can accommodate children with EHS.
- 2016: Cairns Hinterland Steiner School , Australia, WiFi Free Classrooms (may be available in other areas)
- 2016: Wild Cherry School, Australia, 100% Wi-Fi Free
- 2015: St. Cajetanus School, Belgium: Wired Internet installed and wireless removed.
- 2015: Washington Waldorf School, Maryland, USA: Removed Wi-Fi Routers from Buildings, Ethernet installed
- 2015: Freshwater Creek School, Australia, 100% Wi-Fi Free
- 2015: Lorien Novalis School, Australia, 100% Wi-Fi Free School Preschool to 12th grade.
- 2015: Cairns Hinterland School, Austraia, WiFi Free Classrooms for EHS
- 2014: Acorn Hill School, Maryland: Wi-Fi Networks removed.
- 2014: Friends Community School: Wi-Fi turned off in wing for lower elementary school students. WiFi routers moved OUT of classrooms into hallways for older grades to reduce EMF exposure. Ethernet wires made available in classrooms for families who want children on corded (not wireless) computers.
- 2014: <u>DearCroft Montessori</u>: Hardwired internet to younger grades, limited Wi-Fi Router exposure to older grades.
- 2014: Portland Waldorf School, Portland Oregon, USA, WiFi removed.
- 2014: Meeting House Montessori, Braintree Massachusetts, USA, WiFi replaced with ethernet.
- 2014: Ghent, Finland, Wi-fi banned from pre-schools and day care.
- 2014: UPPER Sturt Primary School, Australia. Read article. Read "No WIFI" LOW EMF School Policy.
- 2014: The St. Augustine School in Italy turned off Wifi and goes back to Wires.
- 2013 Winlaw Elementary School, B.C. Canada turned off WiFi.
- 2013 Te Horo Primary School New Zealand Replaced WIFI with cable-based internet.
- 2013 Kootenay Lakes District School Board BC (One school without Wi-Fi)
- 2013 Blaise-Cendrars High School, Switzerland. Teachers vote to remove WiFi.
- 2012 Kivioja primary school in Ylivieska Finland bans phones and minimizes Wireless.
- 2012: <u>Halton Waldorf</u>, in Burlington Vermont: Remaining free of Wireless Radiation
- 2011 City of Lakes Waldorf School, WiFi taken out. Minneapolis, Minnesota USA
- 2011 Aurora School in Ontario removed Wifi and replaced with hardwired.
- 2011 North Cariboo Christian School in Quesnel, B.C., removed Wi-fi.
- 2011 Pretty River Academy in Ontario no WiFi.
- 2011 Wayside Academy, Peterborough, Ontario no Wi Fi.
- 2010 Surrey, BC Roots and Wings Montessori removed Wi-Fi.
- 2010 Ontario St. Vincent Euphrasia elementary school: Parents voted to turn off Wi-Fi.
- 2009 HEROUVILLE-SAINT-CLAIR wi-fi networks removed.

Teacher Unions and Parent Teacher Organizations

2016: New Jersey Education Association (NJEA) publishes "Minimize health risks from electronic devices" in the September 2016 NJEA Review. Adrienne Markowitz and Eileen Senn detail how to reduce physical health risks from devices including risks from radiation exposure

- "Keep devices away from the body and bedroom.
- Carry phones in briefcases, etc., not on the body.
- Put devices on desks, not laps.
- Hard wire all devices that connect to the internet.

- Hard wire all fixed devices such as printers, projectors and boards.
- Use hard-wired phones instead of cell or cordless phones.
- Text rather than call.
- Keep conversations short or talk in person.
- Put devices in airplane mode, which suspends EMF transmission by the device, thereby disabling Bluetooth, GPS, phone calls, and WiFi.
- Use speaker phone or ear buds instead of holding the phone next your head.
- Take off Bluetooth devices when not using them."

2016: Phoenicia Elementary School Onteora School District, New York State

- The PTA wrote a letter to the Onteora School District calling for the Wi-Fi to be turned off as a
 precautionary action. Watch a video of the School Board Meetings where letter is read here.
 Watch videos of parents and students calling for Wi-Fi removal here.
- Read News Report: <u>Some Onteora parents fear Wi-Fi signals in schools are harming their children.</u>

2016: Ontario Secondary School Teachers Federation

• A new call for a moratorium on WIFI and in the Limestone School District and they have taken the issue to the school trustees in that District. "The Teacher Union's president says there is a growing mountain of evidence that WIFI can pose health risks." Andrea Loken/OSSTF District President stated in a 3/2016 news interview that, "There are thousands of published peer reviewed papers that are indicating adverse health effects from WIFI and we are seeing an increased awareness around this issue worldwide." Watch the video of the news piece with Union members here. Read the National Post article here. Radio Canada International article here.

2016: Elementary Teachers Federation of Ontario

 A 3/2016 News Report states that they are calling for a "WIFI moratorium until further health studies are done, and lawmakers can catch up with new regulations." Watch the video of the news piece with Union members here. Read the National Post article here. Radio Canada International article here.

2014 United Federation of Teachers (Teachers, nurses and professionals working in New York City).

- In 2014 their <u>Wireless Radiation Webpage stated</u> "Wireless radiation is emitted by the myriad of wireless devices we encounter every day. It was once thought to be relatively harmless. However, we now know that wireless radiation can cause non-thermal biological effects as well, including damage to cells and DNA, even at low levels. <u>Curiously in March of 2016, this statement was removed</u> and replaced with <u>new text mimicking FCC verbiage</u>. However the site still posts how to reduce exposure.
- Resources posted on their site include Dr. Moskowitz' <u>Reducing Your Exposure to Wireless</u>
 <u>Radiation</u> and the BabySafe Project brochure <u>What You Need to Know About Wireless Radiation</u>
 <u>and Your Baby</u>. "Taking certain precautions around wireless radiation is appropriate for our most
 vulnerable populations, including pregnant women."

2014 New York State Teachers Union NYSUT: A federation of more than 1,200 local unions.

- "We have enough evidence to justify taking action and we are not willing to wait until our members, their children and the students suffer health consequences from not doing anything,"
 -Paul Pecorale, Vice President of the New York State United Teachers Union.
- Read the Press Release on Best Practices For Schools prepared for NYSUT
- Download the <u>Guidelines for Safer Use of Wireless Technology in Classrooms</u> Published for NYSUT
- NYSUT hosted a <u>Webinar</u>: Risks of wireless technologies and protecting children and staff in schools.

2014 National Education Association

"The National Education Association believes that all educational facilities must have healthy indoor air quality, be smoke-free, be safe from environmental and chemical hazards, and be safe from hazardous electromagnetic fields."

"Students and/or their parents/guardians, education employees, and the public should be notified of actual *and potential hazards*."

"School districts should conduct periodic testing for harmful water *and airborne particles/agents* that are detrimental to the health of students and education employees and shall report the results publicly."

"The Association also believes in the development and enforcement of health and safety standards specifically for children." Read Section C-19 of the NEA 2013-2014 Resolutions

2013 Canadian Teacher Federation's Brief (200,000 elementary and secondary school teachers)

- "CTF is concerned about the lack of definitive research regarding the adverse health effects of Wi-Fi.
- "We propose a prudent approach to the use of Wi-Fi, especially where children are present."
- "We recommend an education program regarding the relative safety of Wi-Fi exposure and that appropriate resources be developed to educate the public regarding ways to avoid potential exposure risks of Wi-Fi access points and devices."
- "Pedagogical needs could be met in schools with an approach that limits exposure to Wi-Fi."
- Read the Briefing The Use of Wi-Fi in Schools Briefing Document

2015: Canadian Teacher's Magazine published CTF Sounds the Alarm on Wi-Fi

2013 United Teachers of Los Angeles, representing 40,000 teachers and staff

- Resolution passed: "I move that UTLA will abide by current National NEA Policy for Environmentally Safe
 Schools which states that all employees and stakeholders should be informed when there are changes in their
 exposure to environmental hazards including electromagnetic radiation and that all stakeholders and the
 public should be notified of any actual and potential hazards. UTLA will advocate for technological solutions
 that maintain technology upgrades while not increasing employees exposure to electromagnetic radiation."
- Health and Human Services Committee 3-6-13 #1: Moved by Kevin Mottus, seconded by John Cabrera.
- See UTLA Newsletter editorial by social worker Kevin Mottus.

2013 Elementary Teacher's Federation of Ontario - over 76,000 teachers

"There is cause for concern for members' health and safety, especially women," said Sandra Wash, a teacher representing the Peel district when the Federation issued <u>a 2014 position statement</u> supporting an Expert Panel recommendation that Health Canada provide the public with more information about radiofrequency energy, and the safe use of wireless technology. <u>ETFO voted</u> to:

• Turn cell phones off in classrooms

- Label the location Of Wi-Fi access points.
- Research Radio Frequency radiation.
- Develop a hazard control program related to wireless microwave radiation through JHSC.

2012 The Ontario English Catholic Teachers Association (45,000 Ontario teachers)

- Recommends a wired infrastructure as WIFI "may present a potential Health and Safety risk or hazard in the workplace...The safety of this technology has not thoroughly been researched and therefore the precautionary principle and prudent avoidance of exposure should be practiced."
- Read the Position Statement here. "Controls for WiFi would best be guided by the ALARA principle (As Low As Reasonably Achievable), as well as by applying the concept of prudent avoidance (of non-ionizing radiation)."
- Read CBC News article

2013 BC Teachers Federation adopted Wireless Resolutions and Proposed Resolutions

- "The BCTF supports members who are suffering from Electromagnetic Hypersensitivity by ensuring their medical needs are accommodated in the workplace."
- Proposed Resolutions "the World Health Organization's classification of radiofrequency/electromagnetic fields emitted by wireless devices as a 2B possible cancer risk to humans; that the BCTF ensures all teachers have the right to work in a safe environment, including the right to work in a Wi-Fi/ wireless-free environment."
- Recommendation to the Ministry of Education that school boards "begin immediate installation of on/off switches for Wi-Fi routers in schools, thereby reducing microwave radiation exposure and reducing health risks to members, and/or provide safer Ethernet cables or fibre optics". Read the Wireless Resolutions and Proposed Resolutions
- Read Daily News Coverage: Merritt teachers demand protection from wi-fi radiation 'Evidence is piling up that wi-fi radiation may in fact be harmful'
- Read the Vancouver Sun News Report Here.

2013 <u>The BC Confederation of Parent Advisory Councils (BCCPAC)</u> of 821 Advisory Councils representing over 500,000 parents in British Columbia passed two resolutions.

- Resolution 17 "calls on each Board of Education to have one public school at each education level that is free of Wi-Fi, cordless phones and cell phones. This school will only be equipped with wired computers and wired telephones for personal, educational and administrative purposes."
- Resolution 18 calls on Boards of Education to "cease to install Wi-Fi and other wireless networks in schools where other networking technology is feasible." passed with a clear majority.
- Read Resolution On/Off switches for WiFi Routers and Protocol for the Use of Wireless Devices

2010 UK VOICE ;The Union for Education Professionals - 20,000 members

- "Voice has advocated that new Wi-Fi systems should not be installed in schools, that existing
 systems should be turned off when not required and that schools should consider whether they
 really need to use Wi-Fi, which was developed to facilitate Internet access on the move rather
 than to be used as a convenient alternative to cables in dedicated IT facilities."
- "In the light of what has happened to one of our members [who has developed sensitivity to electro-magnetic radiation], I am concerned that so many wireless networks are being installed in school and colleges without any real understanding of the possible long-term consequences."-Voice General Secretary Philip Parkin
- Read their <u>Position Statement</u> read their <u>Blog post</u>.

Los Angeles California Public Schools

- The LA School District Uses a RF-EMF Exposure Threshold 10,000 Less Than the FCC Limits:
 The OEHS supported a precautionary threshold level that is 10,000 times lower than the current
 Federal Communications Commission standard. Read the RF Report the LA School District Used
 to recommend a cautionary exposure level. RADIOFREQUENCY (RF) EVALUATION REPORT
 Use of Wireless Devices in Educational Settings
- 2009 LA School Board Resolution Banning Cell Towers from schools and recommending against WiFi.
 - "The Board supports responsible deployment of fiberoptic broadband technology which is superior to wireless in speed, reliability, security, durability and protections it affords people and the environment from the potential hazards of exposure to radio frequency radiation."
 - Read the adopted resolution HERE.
 - Read the Press Release here LOS ANGELES BOARD OF EDUCATION MEMBERS VOTE TO PROHIBIT CELL PHONE TOWERS NEAR SCHOOLS
- 2009 December Resolution Condemning Cell towers NEAR Schools as was this T-Mobile Cell
 Tower across the street from an elementary school. Read it here.
 "As long as questions exist as to the adequacy of these federal regulations, local governments
 should have the ability to include consideration of health and environmental effects of these
 facilities." (referring to cell towers) Read the motion by Supervisors Zev Yaroslavsky and Michael
 Antonovich

2000 LA School Board Resolution Opposing Cell Tower Placement on Schools and calling for precautions with wireless. 'Whereas, Recent studies suggest there is evidence that radio-frequency radiation may produce "health effects" at "very low field" intensities' Read it here.

2010 Greater Victoria Teachers' Association

"The GVTA recommends a precautionary approach to the School District with regard to provision of wireless internet in schools. The precautionary approach comes from the environmental movement and has been adopted as common practice in areas regarding potential environmental, ecological or biodiversity damage. It suggests that the lack of significant evidence is not enough of a reason to be unconcerned. The fact that many other countries have instituted regulations to protect children, seniors, pregnant women and other susceptible populations should be the guide for a District policy on WiFi installation and use in the worksites."

The GVTA Wireless in Schools Webpage states now that:

- Wi-Fi free zones should be available.
- On/Off routers recommended and record any adverse Wi-Fi health effects.
- Minimal or non-use within elementary schools.

2008 Lucerne Elementary Secondary Arrow Lakes District SD 10 New Denver BC, Canada Opts for "No WIFI

2001 Fletcher Hills PTA Resolution submitted to the California State PTA

- "RESOLVED, that the California PTA supports local municipal zoning setback rules of at 1000 feet or more from an operating wireless transmitter and a school or residential area; and be it further
- RESOLVED that the California PTA supports encouraging schools to use cable lines for all

- communications services on campus and to avoid the endorsement, purchase or use of wireless local area network systems on campus; and be it further
- RESOLVED that the California PTA recommend that teachers and students should limit use of cellular phones or other mobile devices on school property to emergencies and that cellular phones, pagers and other mobile phones be turned off and placed out of sight while the individual is on school property"
- Resolution on Wireless Equipment/Cellular Phones and Antennas Read it here.

DOCTORS AND SCIENTISTS APPEAL FOR STRICTER WIRELESS TECHNOLOGY REGULATION

Vienna Resolution 1998 **Salzburg Resolution 2000** Stewart Report, UK 2000 **Declaration of Alcalá 2002** Catania Resolution 2002 Freiburger Appeal 2002 Bamberger Appeal 2004 Maintaler Appeal 2004 **International Association** of **Fire Fighters Resolution** on Cell Towers 2004 Coburger Appeal 2005 Oberammergauer Appeal 2005 **Haibacher Appeal 2005**

Pfarrkirchener Appeal
2005
Freienbacher Appeal
2005
Lichtenfelser Appeal
2005
Hofer Appeal
2005

Helsinki Appeal 2005
Parish Kirchner Appeal 2005
Saarlander Appeal 2005
Stockacher Appeal 2005
Vancouver School Resolution
2005
Benevento Resolution 2006

Allgäuer Appeal 2006 WiMax Appeal 2006 Schlüchterner appeal Brussels Appeal 2007

Venice Resolution 2008
Porto Alegre Resolution 2009
European Parliament

EMF Resolution 2009 Dutch Appeal 2009

Int'l Appeal of Würzburg 2010 Copenhagen Resolution 2010 Seletun Consensus Statement

Russian National Committee on Non-Ionizing Radiation Protection

2011

2010

Potenza Picena Resolution 2011

World Health Organization 2011

<u>Austrian Medical Association</u> 2012

Resolution on

Electromagnetic Health 2012
British Doctor Initiative 2013
BabySafe Project: Joint
Statement on Pregnancy and

Wireless Radiation 2014

Canadian Doctors Declaration to Health Canada 2014

Scientific Declaration to

Health Canada (International

Doctors) 2014

International Scientists
Appeal to U.N. to Protect
Humans and Wildlife from
Electromagnetic Fields and
Wireless Technology 2015

Over 200 Scientists

INTERNATIONAL ASSOCIATION OF FIRE FIGHTERS

DIVISION OF OCCUPATIONAL HEALTH, SAFETY AND MEDICINE

"The IAFF opposes the use of fire stations as base stations for towers and/or antennas for the conduction of cell phone transmissions until a study with the highest scientific merit and integrity on health effects of exposure to low-intensity RF/MW radiation is conducted and it is proven that such sitings are not hazardous to the health of our members."

The IAFF Official Position *Against* Cell Towers on Fire stations passed in 2004 iaff.org/HSFacts/CellTowerFinal.asp.

This Position was initiated after increasing complaints among firefighters with cellular antennas
on their stations coupled with the California study showing neurological damage in California
firefighters conducted by Dr. Gunnar Heuser. Read the Press Release on the Resolution and
Research Study here

L.A. County Firefighters Local 1014

- Local 1014 has a webpage dedicated to stopping towers because of a plan to install them on over 200 of their stations. http://www.stopcellphonetowers.com/index.html
- "As firefighters and paramedics, we live in these firehouses. What effect will these towers have on us? What are the risks to our neighbors? It's a no-brainer that LA County should at least have done a proper study before before putting 200-foot high-power microwave antennas on top of our heads."

- Dave Gillotte, Active Duty Fire Captain
President, LA County Firefighters Local 1014
Watch him testify on this issue here.

• The Firefighter's Website in 2015 http://www.stopcellphonetowers.com/index.html

United Firefighters of Los Angeles City Local 112 IAFF-CIO-CLC Opposes Cell Towers on Their Stations.

- "It is inexcusable that once again our firefighters in the field were the last to know about a
 massive 150 million dollar project that could jeopardize their health and safety. ... nobody talked
 to us and we have not heard from one single expert who has told us that this project will be safe."
- "UFLAC will strongly oppose the use of Fire Stations as base locations for cell towers and/or antennas "

DownLoad the letter from this <u>LA Firefighters Union Local 112 asking for an immediate halt to cell</u> towers on fire stations.

Watch videos the these Firefighter Union Presidents testifying to the LA Board of Supervisors on the Issue here.

See list of Medical Doctor Consensus Statements at this link http://ehtrust.org/science/medical-doctors-consensus-statements-recommendations-cell-phoneswireless/